

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 16. (Cancelled)

17. (Currently Amended) A bonded magnet comprising:
manufactured by mixing a magnetic powder having an average particle size in
the range of 1 to 50 μm ; and
with a binding resin,
wherein and then subjecting the mixture to injection molding or extrusion
molding, in which the magnetic powder is composed of an R-TM-B based alloy having
at least one element selected from Ti, Cr, Nb, V, Mo, Hf, W, Mn, Zr and Dy (where R is
at least one kind of rare-earth element selected from the group consisting of Nd and Pr,
a ratio of Pr with respect to a total mass of R is in the range of 20% – 60% excepting Dy,
and TM is a transition metal mainly containing Fe),
the bonded magnet being characterized in that when a density of the bonded
magnet after either injection molding or extrusion molding is $\rho[\text{Mg}/\text{m}^3]$,
a maximum magnetic energy product $(\text{BH})_{\text{max}}[\text{kJ}/\text{m}^3]$ of the bonded magnet at
room temperature satisfies a relationship represented by a formula of $(\text{BH})_{\text{max}}/\rho^2[\times 10^{-9}\text{J}\cdot\text{m}^3/\text{g}^2] \geq 2.10$, and
an intrinsic coercive force H_{CJ} of the bonded magnet at room temperature is in a
range of 400 430 – 760 kA/m.

18. (Original) The bonded magnet as claimed in claim 17, wherein a remanent magnetic flux density $Br[T]$ of the bonded magnet at room temperature satisfies a relationship represented by a formula of $Br/\rho [x10^{-6}T \cdot m^3/g] \geq 0.125$.

19. (Currently Amended) A bonded magnet comprising:
manufactured by mixing a magnetic powder having an average particle size in
the range of 1 to 50 μm ; and
with a binding resin,
~~and then subjecting the mixture to injection molding or extrusion molding,~~
wherein the magnetic powder is being composed of an R-TM-B based alloy having at least one element selected from Ti, Cr, Nb, V, Mo, Hf, W, Mn, Zr and Dy (where R is at least one kind of rare-earth element selected from the group consisting of Nd and Pr, a
ratio of Pr with respect to a total mass of R is in the range of 20% - 60%~~excepting Dy,~~
and TM is a transition metal mainly containing Fe),
~~the bonded magnet being characterized in that when a density of the bonded~~
~~magnet~~ after injection molding or extrusion molding is $\rho[Mg/m^3]$,
a remanent magnetic flux density $Br[T]$ of the bonded magnet at room temperature satisfies a relationship represented by a formula of $Br/\rho [x10^{-6}T \cdot m^3/g] \geq 0.125$, and
an intrinsic coercive force H_{cJ} of the bonded magnet at room temperature is in a range of 400 430 – 760 kA/m.

20. (Currently Amended) The bonded magnet as claimed in claim 17, wherein the magnetic powder is composed of an alloy composition represented by $R_x(Fe_{1-a}Co_a)_{100-x-y-z}B_yM_z$ (where R is at least one kind of rare-earth element ~~excepting Dy~~ selected from the group consisting of Nd and Pr, a ratio of Pr with respect to a total mass of R is in the range of 20% - 60%, M is at least one kind of element selected from Ti, Cr, Nb, V, Mo, Hf, W, Mn, Zr and Dy, x is 7.1 – 9.9at%, y is 4.6 – 8.0at%, z is 0.1 – 3.0at%, and a is 0 – 0.30), and the magnetic powder is constituted from a composite structure having a soft magnetic phase and a hard magnetic phase.

21. (Original) The bonded magnet as claimed in claim 17, wherein a maximum magnetic energy product $(BH)_{max}[kJ/m^3]$ is equal to or greater than $40kJ/m^3$.

22. (Original) The bonded magnet as claimed in claim 16, wherein an absolute value of an irreversible flux loss (initial flux loss) is equal to or less than 6.2%.

23. – 33. (Cancelled)

34. (Currently Amended) The bonded magnet as claimed in claim 19, wherein the magnetic powder is composed of an alloy composition represented by $R_x(Fe_{1-a}Co_a)_{100-x-y-z}B_yM_z$ (where R is at least one kind of rare-earth element ~~excepting Dy~~ selected from the group consisting of Nd and Pr, a ratio of Pr with respect to a total mass of R is in the range of 20% - 60%, M is at least one kind of element selected from Ti, Cr, Nb, V, Mo, Hf, W, Mn, Zr and Dy, x is 7.1 – 9.9at%, y is 4.6 – 8.0at%, z is 0.1 –

3.0at%, and a is $0 - 0.30$), and the magnetic powder is constituted from a composite structure having a soft magnetic phase and a hard magnetic phase.

35. (Original) The bonded magnet as claimed in claim 19, wherein a maximum magnetic energy product $(BH)_{\max}[\text{kJ/m}^3]$ is equal to or greater than 40kJ/m^3 .

36. (Original) The bonded magnet as claimed in claim 17, wherein an absolute value of an irreversible flux loss (initial flux loss) is equal to or less than 6.2%.